

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form**

1. Applying for (select one):	<input checked="" type="checkbox"/> (a) Prop 13 Urban Water Conservation Capital Outlay Grant										
	<input type="checkbox"/> (b) Prop 13 Agricultural Water Conservation Capital Outlay Feasibility Study Grant										
	<input type="checkbox"/> (c) DWR Water Use Efficiency Project										
2. Principal applicant (Organization or affiliation):	<div>City of Corona Water Utilities Department</div>										
3. Project Title:	<div>Residential Meter Replacement</div>										
4. Person authorized to sign and submit proposal:	<table border="0"><tr><td>Name, title</td><td><div>Glenn E. Prentice, Director</div></td></tr><tr><td>Mailing address</td><td><div>815 W. Sixth St. Corona, CA 92882</div></td></tr><tr><td>Telephone</td><td><div>(909) 736-2263</div></td></tr><tr><td>Fax.</td><td><div>(909) 736-2231</div></td></tr><tr><td>E-mail</td><td><div>glenn.prentice@ci.corona.ca.us</div></td></tr></table>	Name, title	<div>Glenn E. Prentice, Director</div>	Mailing address	<div>815 W. Sixth St. Corona, CA 92882</div>	Telephone	<div>(909) 736-2263</div>	Fax.	<div>(909) 736-2231</div>	E-mail	<div>glenn.prentice@ci.corona.ca.us</div>
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E-mail	<div>glenn.prentice@ci.corona.ca.us</div>										
5. Contact person (if different):	<table border="0"><tr><td>Name, title.</td><td><div>Kimberly Massopust, Water Resource Specialist</div></td></tr><tr><td>Mailing address.</td><td><div>815 W. Sixth St. Corona, CA 92882</div></td></tr><tr><td>Telephone</td><td><div>(909) 279-3768</div></td></tr><tr><td>Fax.</td><td><div>(909) 736-2231</div></td></tr><tr><td>E-mail</td><td><div>kim.massopust@ci.corona.ca.us</div></td></tr></table>	Name, title.	<div>Kimberly Massopust, Water Resource Specialist</div>	Mailing address.	<div>815 W. Sixth St. Corona, CA 92882</div>	Telephone	<div>(909) 279-3768</div>	Fax.	<div>(909) 736-2231</div>	E-mail	<div>kim.massopust@ci.corona.ca.us</div>
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E-mail	<div>kim.massopust@ci.corona.ca.us</div>										
6. Funds requested (dollar amount):	<div>\$532,500</div>										
7. Applicant funds pledged (dollar amount):	<div>\$532,500</div>										
8. Total project costs (dollar amount):	<div>\$1,065,000</div>										
9. Estimated total quantifiable project benefits (dollar amount):	<div>\$11,635,924</div>										
Percentage of benefit to be accrued by applicant:	<div>50%</div>										
Percentage of benefit to be accrued by CALFED or others:	<div>50%</div>										

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)**

10. Estimated annual amount of water to be saved (acre-feet): 3195 acre feet
- Estimated total amount of water to be saved (acre-feet): 3195 acre feet
- Over 10 years 31950 acre feet
- Estimated benefits to be realized in terms of water quality, instream flow, other: Instream Flow
11. Duration of project (month/year to month/year): 10/02 - 10/03
12. State Assembly District where the project is to be conducted: 64th District
13. State Senate District where the project is to be conducted: 31st District
14. Congressional district(s) where the project is to be conducted: 43rd District
15. County where the project is to be conducted: Riverside
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources: December 2000
17. Type of applicant (select one):
Prop 13 Urban Grants and Prop 13
Agricultural Feasibility Study Grants:
- ☒ (a) city
☐ (b) county
☐ (c) city and county
☐ (d) joint power authority
☐ (e) other political subdivision of the State, including public water district
☐ (f) incorporated mutual water company
- DWR WUE Projects: the above entities (a) through (f) or:
- ☐ (g) investor-owned utility
☐ (h) non-profit organization
☐ (i) tribe
☐ (j) university
☐ (k) state agency
☐ (l) federal agency
18. Project focus:
- ☐ (a) agricultural
☒ (b) urban

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:**

A. Project Information Form (continued)

19. Project type (select one):
Prop 13 Urban Grant or Prop 13
Agricultural Feasibility Study Grant
capital outlay project related to:

- ☒ (a) implementation of Urban Best Management Practices
- ☐ (b) implementation of Agricultural Efficient Water Management Practices
- ☐ (c) implementation of Quantifiable Objectives (include QO number(s))
-
- ☐ (d) other (specify)
-

DWR WUE Project related to:

- ☐ (e) implementation of Urban Best Management Practices
- ☐ (f) implementation of Agricultural Efficient Water Management Practices
- ☐ (g) implementation of Quantifiable Objectives (include QO number(s))
- ☐ (h) innovative projects (initial investigation of new technologies, methodologies, approaches, or institutional frameworks)
- ☐ (i) research or pilot projects
- ☐ (j) education or public information programs
- ☐ (k) other (specify)
-

20. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?

- ☐ (a) yes
- ☒ (b) no

If yes, the applicant must complete the CALFED PSP Land Use Checklist found at http://calfed.water.ca.gov/environmental_docs.html and submit it with the proposal.

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One
B. Signature Page**

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant.

_____	<div>Glenn E. Prentice, Director</div>	<div>2/28/02</div>
Signature	Name and title	Date

2002 CONSOLIDATED WATER USE EFFICIENCY PROPOSAL PART TWO

Project Summary

The City of Corona Water Utilities Department has set a goal to replace a total of 21,300 existing multi-jet meters with positive displacement meters. This program will be implemented throughout the City of Corona over the next three years, replacing 7,100 meters per year. Due to the design flaws of the existing meters they are unable to accurately read the amount of water being used. In 1999, this contributed to approximately 18% of unaccounted for water loss.

There are two main goals of the replacement program. First, install meters with a high accuracy reading rate to correctly monitor residential water use. The second goal of the program is to accelerate the amount of meters installed at a faster rate than with the current budget allocation.

During 2000 and 2001, the Corona Water Utilities Department (CWUD) established a pilot project for meter replacement to analyze current problems and determine future solutions. Throughout the project CWUD replaced 3,000 meters. Once the findings came back we determined the amount of water loss had a significant impact on revenue. To provide a solution to this problem the CWUD set a goal to replace 7,100 meters a year for the next three years. Each meter costs \$110, by replacing 7,100 meters each year the expected equipment cost is \$781,000 per year. By installing 7,100 new meters, it's estimated they will save 3,195 acre-feet per year. Once all 21,300 meters are replaced, we expect a total of 9,590 acre-feet of savings per year. With funding from the Proposition 13 Urban Water Conservation Capital Outlay Grant, the time of replacement would decrease from the projected 6 to 8 years to approximately 3 years.

A. Scope of Work: Relevance and Importance

1. Nature, Scope and Objectives of the Project

The nature of the program is to replace inaccurate multi-jet meters with positive displacement meters using experienced Water Utility Staff. The scope of the program is to replace 7,100 meters each year for the next three years for a total of 21,300 meters replaced in the City of Corona. There are several objectives to be reached by implementing this program.

- ❑ Accelerate water savings by implementing new meters at a faster rate than expected.
- ❑ Accurately measure water use to reduce the amount of unaccounted for water and prevent loss.
- ❑ Save 99,500-acre feet of water over the estimated 10-year life of the meters after installing all 21,300 meters.

2. Local and Regional Impact.

Since April 1996, the City of Corona Water Utilities Department has been a signatory to the California Urban Water Conservation Council's Memorandum of Understanding. Through implementation of the Best Management Practices and leak detection program, the department discovered a large water loss in 1999 of approximately 18%. To reduce the water loss, a meter testing pilot project was established. During the pilot project, CWUD discovered that multi-jet meters were not registering and were recording as low as a 50% accuracy rate on high flows. Staff tested these meters at various flows and pressures. It was determined that when water pressure exceeded 60 psi and flow range reached 35 gallons per minute these meters would start to break contact on the magnetics at the register. Also when the meter was hit with 30 gpm at high pressure instantaneously, the meter would stop registering completely. The testing is representative of an irrigation valve starting when the solenoid opened instantly or when a larger service line was installed behind the meter, such as a pool fill line.

The pilot project demonstrated that immediately following the installation of a new positive displacement meter a customer's bill increases and then immediately decreases in the following billing cycle. Many customers make contact with the conservation and customer service staff once they receive the higher bill and inquire on ways to reduce water usage. Lastly, installing the new positive displacement meters will help to decrease the demand on our imported water supplies. The CWUD currently imports approximately 55% of the city's water supply from the California State Water Project and the Colorado River.

B. Scope of Work: Technical/ Scientific Merit, Feasibility, Monitoring and Assessment

1. Methods, Procedures and Facilities

The CWUD will follow the same methods and procedures that were established when installing the initial 3,000 positive displacement meters. The staff is ready to proceed with the program by using the following methods:

- ☐ Standard purchasing procedures will be used to purchase a supply of meters
- ☐ Neighborhoods identified with high pressure, large lots, and old meters will be replaced first.
- ☐ Experienced CWUD staff will install the meters.
- ☐ Develop a residential database of meters that have been replaced.
- ☐ Continue to educate residents about conservation methods.
- ☐ Continue to provide free landscape evaluations and water efficient fixtures, including: ultra-low-flush toilets, showerheads, sink aerators and hose nozzles.

2. Task List and Schedule

See Exhibit A

3. Monitoring and Assessment

The CWUD will monitor and assess the newly metered properties in the following ways:

- ❑ Compare water usage from before and after meter replacement.
- ❑ Compile data in an Excel Worksheet or comparable program of water used in the first billing cycle (2-month period) after the new meter retrofit.
- ❑ Monitor any changes in customer water use after initial billing with the new meter in place.
- ❑ Conduct a study one-year after meter replacement to determine any change in the amount of unaccounted for water loss.

4. Product Specifications

The following is information about the specific meter that will be installed:

- ❑ The meter type is a **Sensus SRII** – Displacement Type Magnetic Drive Cold Water Meter.
- ❑ This meter complies with ANSI/AWWA standard C700 (the latest revision). Each meter is tested to insure compliance.
- ❑ CWUD will purchase 7,100 Sensus SRII displacement meters.

The reason for using the positive displacement meter is because it will not break magnetic contact when it is reading the amount of water being used, even as the meter ages. In addition, the meters will be adapted to automated meter reading which will eliminate reading errors, reduce injury and allow staff more time for other assignments.

C. Qualifications of the Applicants and Cooperators

1. Project Manager's Resume

See Exhibit B

D. Benefits and Costs

1. Budget Breakdown and Justification

See Exhibit C

2. Cost-Sharing

The CWUD has some funds allocated to the replacement program. Additional funding is needed to implement the program at a faster pace, thus eliminating unaccounted for water loss. CWUD will share a portion the cost of the equipment and will cover the cost of labor for installing the meters. In total, CWUD will match the requested grant funds of \$532,500 towards the cost of the meter retrofit program.

3. Benefit Summary & Breakdown

3a. Quantifiable Outcomes – By installing 7,100 meters in the first year, it is expected that the following savings will occur:

- ❑ A water savings of 3,195 acre-feet per year. A benefit to both CWUD and CALFED.
- ❑ A water savings of 31,950 acre-feet over the 10-year life expectancy. A benefit to both CWUD and CALFED.

3b. Qualitative Benefits – The benefits are consistent with CALFED’s objectives to increase the amount of water saved through conservation. Once the initial 7,100 meters are installed the water savings will be 3,195 acre-feet a year. By the end of their 10-year life span the meters will save 31,950 acre-feet. This will help CALFED meet their goals in the following ways:

- ❑ Significantly reduce the amount of imported water used by the City of Corona.
- ❑ Improve water use efficiency.
- ❑ Reduce the demand on the Delta contributing to water conservation and helping improve water quality.
- ❑ Establish more accurate billing to reduce unaccounted for water loss.
- ❑ Expand our current customer education programs.

4. Assessment of Costs & Benefits

4a. Analysis Assumptions and Methodologies – There are two main assumptions made in regards to the meter replacement program. First, the analysis assumes that once the new meter is installed the customer’s water bill will increase. Second, it is expected that a higher water bill will influence residents to conserve water in an effort to lower their bill. Both assumptions have been tested in our pilot project. Based on the 3,000 meters CWUD has already replaced, it was demonstrated that the above assumptions are true.

Once the customer realizes how much water they were not being charged for, the actual bill creates a driving force to change their behavior. Once a significant increase occurs on a customer’s water bill, the customer typically will seek assistance from the department for remedies on how to reduce their water usage. To help customers reduce the amount of water they use CWUD has included in its methodology public education. By educating customers on ways to improve irrigation efficiency through free landscape evaluations and offering water efficient fixtures for their homes, the department has seen results from the customer’s reduction in water usage.

4b. All Benefits and Costs for 2002

See Exhibit D

4c. All Costs and Benefits in their Present Value

See Exhibit D

4d. Chart showing quantified and non-quantified costs and benefits for CWUD and CALFED.

See Exhibit D

4e. How is the program Locally Cost Effective?

The meter replacement program will save approximately \$323,020 over the first year after the 7,100 meters have been installed. Over the expected 10-year life span of the meters, the department can expect an approximate saving of \$11,635,924, as demonstrated in Exhibit D.

E. Outreach, Community Involvement and Acceptance

The City of Corona Water Utilities Department will develop the following information to generate community awareness of the meter replacement program:

- ❑ Educational Material – The development of a bill stuffer and/or a flyer will be an important part of notifying the targeted customers of the meter changes at the start of installation.
- ❑ Website – Information will be added to the CWUD website regarding the meters that will be installed.
- ❑ Door Hangers – After the meter has been installed, a door hanger will be left to inform the resident of the changes. This will also include a phone number the customer can call for additional information and ways to help the customer to reduce their water consumption.

Jonathan E. Daly
(909) 736-2477

Employment Objective

To effectively and efficiently manage the City of Corona, Water Utilities Department, Maintenance and Conveyance Systems Division, to ensure our employees a safe working environment, while supplying our public an adequate supply of safe good quality potable water, and an efficient sewer system.

Skills, Accomplishments & Certificates:

- ◆ Superintendent of the Maintenance and Conveyance Systems Division, encompassing:
 - Water and Wastewater Pipeline Construction and Rehabilitation
 - Systems Maintenance
 - Customer Service and Water Meter Reading
 - Facilities Maintenance
- ◆ Water Distribution Operator Grade V (CA DHS)
- ◆ Water Treatment Operator Grade I (CA DHS)
- ◆ Wastewater Treatment Operator Grade II (WQCD)
- ◆ Collection System Maintenance Grade II (CWEA)
- ◆ Mechanical Technologist Grade III (CWEA)
- ◆ Electrical Instrumentation Grade I (CWEA)

Employment History

7/98 – Present Water Utilities Superintendent

Promoted to: Maintenance and Conveyance Division

Emphasis: Manage a water and wastewater maintenance division including 47 employees, 13 programs, and serving water and wastewater needs to approximately 130,000 residents and businesses.

9/89 – 7/98

Promoted to: Maintenance Supervisor

Water Pollution Control Division

Emphasis: Supervise a crew of 5 engaged in the maintenance of equipment and infrastructures for two wastewater treatment plants service approximately 120,000 residents and businesses.

11/87 – 9/89 Maintenance Mechanic

Water Pollution Control Division

City of Corona

815 W. 6th Street

Corona, CA 92882-3238

Emphasis: Maintain equipment and infrastructures for a wastewater treatment plant serving approximately 90,000 residents and businesses.

Education

California State University at Sacramento

Riverside Community College

Polytechnic Institute, N.Y.

Jim S. Curtis
909/736-2482

QUALIFICATIONS

I have 24 years experience with Construction and Maintenance of Public Works and Utility Systems. I have 18 years with my current employer, the City of Corona. The last 12 years has been in a Supervisory capacity in which I am responsible for the maintenance and installation of all water meters. I currently hold a D4 in Water Distribution and Treatment I in Wastewater.

TRAINING

- Nuclear Density Gauge Operation – 1980 - 1991
- Basic Construction Procedures – 1982
- Safety Through Construction Zones – 1985
- Cla Val Installation – 1989
- Computer Introduction – 1991
- Backflow Prevention Assembly – 1991
- Meter Selection, Installation / Calibration
- Main Event Management - 1992
- Supervisory Development - 2001
- Introduction Water Distribution - 2000
- Intermediate Water Distribution - 2002
- Advanced Water Distribution - 2001

EDUCATION

- Rogers High School, Rogers, Arkansas – Graduated 1976
- University of California Riverside
Supervisory Excellence – March 1991
- San Bernardino Valley College
Water Distribution – December 1996
Water Quality – June 1997
Wastewater Treatment “A” – December 1997
Wastewater Treatment “C” – June 1998
Cross Connection – June 1999

EMPLOYMENT HISTORY

November 1, 1989 to Present – Water Utility Supervisor

CITY OF CORONA

Corona, California

Utilities Department , Maintenance and Conveyance Division

Duties: Plans, schedules, inspects, supervises and participates in the work and activities of the Water Utilities meter reading and customer service operations. Works with Superintendent and other Division staff in the planning and implementing of preventative maintenance programs for the Water Distribution System.

November 1, 1984 to 1989 – Water Utility Inspector

CITY OF CORONA

Corona, California

Utilities Department

Duties: Oversees and inspects all water and sewer construction projects performed by contractors and developers. Responsible for installation per plans and specifications, assuring quality workmanship.

Kimberly N. Massopust

EDUCATION

Loyola Marymount University
Bachelor of Arts, Communication Studies

5/99

PROFESSIONAL EXPERIENCE

City of Corona Water Utilities Department, Corona, CA **4/01 – Present**

Water Resources Specialist

- Collect, interpret and evaluates efficiency use data to determine how effectively the department is meeting the Best Management Practices and conservation goals; prepares detailed reports and presentations on program findings, conclusions and recommendations.
- Administer public outreach activities; write press releases, articles, service announcements and other marketing materials to promote conservation.
- Plan, design and administer water efficiency programs and projects.
- Assist in mitigating customer concerns regarding water quality, conservation efforts and similar programs.

Water Resources Coordinator, Intern

6/98 – 9/98

- Researched conservation programs and helped promote awareness of conservation techniques through specially designed programs
- Provide support to water conservation special events.

HomeBase, Irvine, CA

5/99 – 4/01

Public Relations and Promotions Coordinator

- Plan, organize and help direct grand opening events and celebrity in-store appearances.
- Help develop company promotions and interest gaining events.
- Research and write copy points for home improvement projects presented on television.
- Coordinate company wide charity campaign for City of Hope.
- Maintain accounting of a fifteen million-dollar budget.
- Assist with pitching and handling phone calls from local and industry trade media.
- Track articles and news releases regarding industry events.

Loyola Marymount University Scheduling Office, Los Angeles, CA 1/97 – 5/99

Assistant Manager (1988)

- Supervised twelve people.
- In charge of customer service quality for all clients.
- Interviewed, hired and trained scheduling staff.
- Ensured office policies and procedures were maintained.

Scheduling Staff (1997)

- Scheduled events on campus for students, staff, faculty and administrators.
- Helped maintain accurate records of events scheduled on campus.

CTSI Corporation, Irvine, CA

3/95 – 4/98

Administrative Assistant

- Assisted with weekly water conservation marketing events, working directly with high school students and community organizations.
- Helped ensure the success of fundraising for student groups with conservation programs.
- Implemented effective inventory strategies.

Budget Breakdown & Justification

Description	CWUD Cost	PROP 13 Costs	Total
LandPurchase/ Easement	N/A	N/A	
Planning/Design/Engineering	N/A	N/A	
Materials/ Installation	\$248,500	\$532,500	\$781,000
Structures	N/A	N/A	0
Equipment Purchases/ Rentals	N/A	N/A	0
Environmental Mitigation/Enhancement	N/A	N/A	0
Construction/Administration/Overhead	\$284,000	N/A	\$284,000
Project/Legal/ License Fees	N/A	N/A	0
Contingency	N/A	N/A	0
TOTAL	\$532,500	\$532,500	\$1,065,000

Quantified Costs and Benefits of Meter Replacement

	Equipment Cost	Labor Cost	Total Cost	Water Saved (in acre feet)	Saved Imported Water Cost
CWUD	\$248,500	\$284,000	\$532,500	3,195	\$1,393,020
CALFED	\$532,500	\$0	\$532,500	3,195	None
TOTAL	\$781,000	\$284,000	\$1,065,000	3,195	\$1,393,020
		6% Discount Rate	\$1,001,100		

TOTAL BENEFIT

1st YEAR

\$328,020

TOTAL BENEFIT

AFTER 10 YEARS

\$11,635,924

* CWUD pays \$436 an acre foot for CA State Water Project and \$350.5 Colorado River Water
Figures are based on CA State Water Project Costs

Non-Quantified Costs and Benefits of Meter Replacement

	Non-quantified Costs	Non-quantified Benefits
CWUD	Potential less revenue due to conservation methods	Significant Reduction in Imported Water Improved Water Use Efficiency Reduce unaccounted for Water Loss
CALFED	None	Reduced Demand on the Delta Improved Water Use Efficiency Improved Water Quality in the Delta